CERCLA
~~COMBINED~~ SITE ASSESSMENT INSPECTION REPORT
Inspection for:

CLAYTON CHEMICAL
ILD 066 918 327
SAUGET, ILLINOIS

PREPARED BY:
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
BUREAU OF LAND
OFFICE OF SITE EVALUATION

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1.0 INTRODUCTION

The Illinois Environmental Protection Agency's (Illinois EPA) Office of Site Evaluation was tasked by Region V of the United States Environmental Protection Agency (U.S. EPA) to conduct an ~~Combined~~ Site Assessment Inspection of the Clayton Chemical site located in Sauget, Illinois. The CombinedAssessment Inspection is performed under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1986 (CERCLA), commonly known as SARA. The purpose of the Combined Assessment Inspection is to gather data to satisfy both remedial and removal programs to develop a CERCLA Hazard Ranking System (HRS) proposal. The information required may include characterizing sources and hazardous wastes, attributing contamination to sources at the site, identifying targets that may be at risk, collecting geologic and demographic information, and additional information which may not exist following previous CERCLA activities.

1.1 Site Description

The Clayton Chemical site consists of approximately seven acres located in the western portion of the city of Sauget, St. Clair County, Illinois (latitude 38°35'72.4"N and longitude 90°11'02.2"W). The site address is 1 Mobile Avenue, Sauget, Illinois. The site is approximately one-quarter mile east of the Mississippi River. The area lies in the flood plain of the Mississippi River in an area known as the "American Bottoms" flood plain. The floodplain is relatively flat and generally slopes from north to south and from east to west. The area is protected by the U.S. Army Corps of Engineers river levee and is in an area of intense commercial land use. Chemical Waste Management and Onyx Environmental Services is located west and north of the site. There is a power substation located north of the site. To the east of the site is an open field.

The American Bottoms are underlain by unconsolidated valley fill. The valley fill is composed of recent alluvium, known as the Cahokia Alluvium, which overlies a unit of glacial material known as the Henry Formation. The Cahokia Alluvium is approximately 40 feet thick and consists of unconsolidated, poorly sorted, fine-grained material with some local sand and clay lenses. These alluvial deposits unconformably overlie the Henry Formation, which is composed of medium to coarse sand and gravel that increases in grain size with depth. This unit is approximately 95 feet thick and generally becomes thinner with increasing distance from the Mississippi River. The valley fill throughout the floodplain is underlain by a bedrock system of Mississippian and Pennsylvanian age. The bedrock consists primarily of limestone and dolomite with some sandstone and shale, and is older in the central and western sections of the American Bottoms.

Two types of water-bearing formations exist in the American Bottoms: unconsolidated and consolidated. The unconsolidated formations (predominantly silt, sand, and gravel) are those that lie between the ground surface and the bedrock-gravel interface. The thickness of the unconsolidated formation varies throughout the area, but is typically estimated to be approximately 100 feet. Finer-grained sediments generally dominate at the ground surface and become coarser and more permeable with depth, creating semi-confined conditions within the aquifer. Thus, permeability and porosity increase in the unconsolidated formation with depth. The consolidated formations are deep bedrock units of limestone and dolomite that exhibit low permeability and are not considered to be a significant source for groundwater in the area.

Recharge to the aquifer occurs through four sources: precipitation, infiltration from the Mississippi River, inflow from the buried valley channel of the Mississippi River, and subsurface

flow from the bluffs that border the floodplain on the east.

Historically, groundwater from the American Bottoms aquifer was a major source of water for the area and was used for industrial, public, and irrigation purposes. Groundwater levels prior to industrial and urban development were near land surface. Intensive industrial water withdrawal, use and construction for a system of drainage ditches, levees, and canals to protect developed areas lowered the groundwater elevation for many years. However, by the mid-1980s, the groundwater levels increased due to reduced pumpage, high river stages, and high precipitation. Currently, no groundwater is being pumped from the American Bottoms aquifer in the vicinity for public or industrial use. Nine individual wells have been identified. These wells are used for irrigation purposes, and Sauget has a city ordinance that prohibits use of groundwater as potable water. The public water supply is the exclusive potable water source.

The source for drinking water for area residents is an intake in the Mississippi River. This intake is located at river mile 181, approximately three miles north of the confluence of Dead Creek and the Mississippi River. The drinking water intake serves the majority of residences in the area.

The nearest downstream surface-water intake on the Illinois side of the Mississippi River is located at river mile 110, approximately 64 miles south of the project area. This intake supplies drinking water to the residents on the Town of Chester, IL and surrounding area in Randolf County, Illinois. The nearest potentially impacted public water supply on the Missouri side of the river is located at river mile 149, approximately 28 miles south of the confluence of Dead Creek and the Mississippi River at the Village of Crystal City, Missouri (pop. 4,000). The utilizes a Ranney well adjacent to the Mississippi River as a source of drinking water.

The groundwater level is currently between 10 to 20 feet below ground surface, but fluctuates during times of heavy and light precipitation.

There are approximately 16 acres of wetlands within ¼ mile of the site that are reportable in HRS terms. There are approximately 21 acres of wetlands ¼ to ½ mile from the site, and approximately 161 acres of wetlands within ½ to 1 mile of the site. These estimates were compiled using information from the Illinois Department of Natural Resources and from the National Wetland Inventory Maps.

The area occupied by Clayton Chemical is in a non-flooding zone according to information obtained from the Illinois Department of Natural Resources.

1.2 Site History

Clayton Chemical, which is owned by Resource Recovery Group (RRG), is located at 1 Mobile Avenue. The property was utilized from 1930 to 1962 as a railroad repair yard. Types of waste that may have been generated and disposed on site during this time frame are those typical of a rail yard in those years, including off-specification or contaminated fuels, used lubricating oil, waste wash water, etc. In 1961, Clayton Chemical leased the property from GM&O Railroad and began the process of recovering and recycling spent solvents and waste oil. In 1962, a crude oil topping plant began operations on site. Products derived from the crude oil included white gas, distillate fuel oils, and residual bottoms material. Wastes from these processes were disposed on site. The Clayton Chemical site had leased out portions of the property to other companies for storage units at various times.

The reclaimed spent solvents and oils that were processed by Clayton Chemical were stored in above ground storage tanks (ASTs) and in drums at a warehouse and at the loading-

dock storage area. Clayton Chemical stockpiled three different types of waste materials: non-hazardous waste oil, hazardous waste oil, and hazardous waste solvents. The spent solvents went through a distillation process and the recycled solvents were sold to industries. Residual bottom sludge from the solvent distillation process was mixed with chemicals and sold for use in the pavement industry. The site was also known to function as a bulk-oil storage and handling facility. At this time, the site is unoccupied and not in operation. Filled drums and tanks are still located onsite.

Heavy industry is located on the east bank of the Mississippi River between Cahokia to Alton, Illinois. This area has been utilized for nearly a century. Industrial activity peaked in the 1960s. Although heavy industry has shut down throughout the American Bottoms, the Sauget area is still highly industrialized. In addition to heavy industry, the area currently has warehouses, trucking companies, commercial facilities, bars, nightclubs, convenience stores and restaurants.

Residential areas are interspersed with the commercial and industrial areas in the American Bottoms region. According to 1990 census figures, the population of the Village of Cahokia is 17,550 people and the population of the Village of Sauget is 197 people. An additional 40,944 residents live in nearby East St. Louis. The nearest resident is approximately ¾ mile east of the site.

2.0 SUMMARY OF ONSITE ENVIRONMENTAL WORK

This section presents the activities conducted during the Combined Assessment to complete the soil sampling, groundwater sampling, and hazardous categorization of selected drums on-site. The Superfund Technical Assessment and Response Team (START), U.S.EPA, and Illinois EPA conducted the sampling activities in accordance with a Site Specific Sampling Plan for the Clayton Chemical site. Procedures used for soil and groundwater sampling, equipment decontamination, quality assurance, and sample collection and handling are described below.

START conducted site activities on the 5th, 6th, and 7th of June 2001. Members of the START team, U.S. EPA On-Scene Coordinators and Illinois EPA personnel met together to conduct a general reconnaissance of the site to identify proposed sampling locations. Soil and groundwater sample locations were selected at this time. The samples were collected over a three-day period and submitted for analysis.

Currently, the site is inactive and unused. The site consists of five buildings with a number of above ground storage tanks (ASTs). The southern half of the site is an open field and is vegetated. A chain-link fence surrounds the site.

The surrounding area east of the site is known as Sauget Area 1 and is currently proposed for National Priorities Listing. This area is centered on Dead Creek, an intermittent stream that is approximately 17,000 feet long, and its floodplain. Dead Creek is located in the Village of Sauget. Dead Creek is an intermittent creek which was used during the 1930's and before for waste disposal. The creek segments included in the site stretch over 3.5 miles. The 12 sources

identified for Sauget Area 1 are located near the Clayton Chemical facility. The twelve contaminant sources, including Segments A through F of Dead Creek, and adjacent Sites G through N. Site G, H, and I were active during approximately 1931 to 1957. Site L is a former surface impoundment used by waste haulers to dispose of wash water during the period 1971 to 1979. Site M and N are former sand pits which were excavated in the 1940's. The site is being addressed through both short-term removal actions and a long-term remedial phase focusing on cleanup of the entire site. The U.S.EPA is the lead agency for this site. Segment A of Dead Creek was remediated by a Potentially Responsible Party (PRP) in 1990 under a Consent Decree with the Illinois EPA. Over 22,000 cubic yards of contaminated creek sediment was removed. In 1995, the U.S.EPA conducted an extensive investigation of the Site G landfill and the surrounding area following an underground fire at the site. After the investigation, the contaminated wastes were consolidated on-site and a soil cover was placed over the landfill. In 1997, the U.S.EPA conducted a Preliminary Ecological Risk Assessment on Segment F of Dead Creek. On January 21, 1999, U.S.EPA entered into Administrative Order by Consent (AOC) with one of the PRPs. The AOC requires the PRP to conduct additional sampling at the site, conduct a human health and ecological risk assessment and to conduct an Engineering Evaluation/Cost Analysis (EE/CA) for the source areas and a Remedial Investigation and Feasibility Study for groundwater. At the conclusion of the investigation, cleanup alternatives will be discussed and a final cleanup remedy will be selected for the site.

Sauget Area 2, Site O is the location of the old Sauget Waste Water Treatment Plant sludge lagoons. These former lagoons are located directly east of Clayton Chemical. The 20-acre site consists of four covered sludge-dewatering lagoons associated with the old wastewater

treatment plant. Operations of the plant began in 1952. The sludge lagoons at Site O were opened in 1965, and were placed in operation in 1966/1967. The sludge lagoons were closed in 1980 by stabilizing with lime and covering with two feet of clay.

3.0 SITE INSPECTION ACTIVITIES AND ANALYTICAL RESULTS

3.1 Sampling Activities

3.1.1 Soil Sampling

This section outlines the procedures used and observations made during the Combined Assessment conducted at the Clayton Chemical site. Figure 3 Shows on-site sample locations. Table 1 and 2 provide a summary of sample descriptions and locations.

There were 22 soil samples collected. The soil samples were collected throughout the site from depths ranging from the surface to 12 feet below ground surface. The majority of the topsoil at Clayton Chemical was black cinders, usually 3 inches deep. The soil possessed an assortment of chemicals and odors, which had emerged from the ground when soil samplings and soil borings were collected. In some areas, the soil had an oily appearance, contained paint, or contained some unknown white flaky materials. The soil samples were placed into appropriate laboratory containers and labels were completed and affixed. The containers were placed on ice, and a chain-of-custody form was completed. Sets of clean, dedicated equipment were used at each sample location. Sterile gloves were donned before the first sample was collected and

changed between each additional sample. The soil samples were analyzed for Resource Conservation Recovery Act (RCRA) metals, polychlorinated biphenyls (PCBs), total petroleum hydrocarbons (TPHs), pH, ingnitability, semivolatile organic compounds (SVOCs), and volatile organic compounds (VOCs).

3.1.2 Groundwater Samples

There were ten groundwater samples collected throughout the site using the Geoprobe at depths of 8 to 16 feet below ground surface. Some sampling locations had odors of petroleum, and the soil had an oily appearance. The groundwater samples were analyzed for RCRA metals, PCBs, pH, total cyanide, and VOCs. The groundwater samples were placed into laboratory containers, labels were completed and affixed, the containers were placed on ice, and a chain-of-custody form was completed. Sets of clean, dedicated equipment were used at each sample location. Sterile gloves were donned before the first sample was collected and changed between each additional sample.

3.1.3 Categorization of Drums/Tanks/Containers

Selected drums were opened and sampled to verify the contents. Various sized and shaped containers, tanks, and miscellaneous items were located and counted throughout the Clayton Chemical property. The drum samples for hazardous characterization were collected with dedicated glass-drum thieves and placed in a dedicated sample jar. Sterile gloves were donned before the first samples were collected and changed between each additional sample. Summaries of the drum inventories are found in Table 3.

3.1.4 Sample Handling

Sample identification, documentation, and chain-of-custody were conducted in accordance with applicable Contract Laboratory Program (CLP) sample handling protocol. The proper chain-of-custody was maintained during collection, storage, and transportation of the samples. The samples were hand delivered to Enviromentric Inc., Laboratory in St. Louis, Missouri.

4.0 ANALYTICAL RESULTS

During the investigation, soil samples, soil borings, and groundwater were collected. The analytical samples were submitted to Environmentrics, Inc., Laboratories of St. Louis, Missouri. Analytical results are presented in Appendix A.

Sample results that exceeded the Emergency Action Levels are highlighted in Table 4. There were 11 soil and 11 sub-surface samples collected along with ten ground water samples. The soil samples were analyzed for RCRA total metals, VOCs, SVOCs, PCBs, pH, and ignitability. The soil boring samples were analyzed for the same parameters as the surface soil and also included TPH and cyanide. The groundwater samples were analyzed for RCRA metals, VOCs, and cyanide. Sample results were compared to background samples collected in the area during the investigation of another property located at Illinois Route 3 at Monsanto Avenue, Sauget, Illinois. The samples collected for the background were collected in 1999 during an Expanded Site Inspection.

4.1 Groundwater Sampling

Ten groundwater samples were collected from the Clayton Chemical site. Background samples collected in 1999, from a nearby investigation of the other CERCLA ESI were used to

compare values with samples collected at the Clayton Chemical facility. GW-013-01 through –06 and GW-013-08 exceeded values for 24 VOCs. These values can be found in Table 4 and are highlighted.

4.2 Surface Water Sampling

No surface water samples were collected during the Combined Assessment Inspection.

4.3 Soil Sampling

There were twenty-two soil samples collected from the Clayton Chemical site. The soil samples were collected throughout the site at the surface to 12 feet below ground surface. The majority of the fill material at the Clayton Chemical site, was black cinders to a depth of approximately 3 inches. There were nine samples that exceeded three times the background values for metals, 12 samples that exceeded three times the background values for volatiles, 15 samples that exceeded three times the values for PCBs, and 17 samples that exceeded three times the background values for semivolatiles (Table 4). The samples that exceeded three times the background levels are highlighted in Table 4.

4.4 Ignitability

All soil and boring samples were analyzed for ignitability using the close cup method SW-846-1020. The samples, SS-013-04, -07, -08 and –11 had ignitability of 140 degrees Fahrenheit (F) or less which is considered a hazardous substance by U.S.EPA. The remaining samples had ignitability of greater than 200 degrees F.

4.5 Sources

The HRS defines a source as any area where a hazardous substance has been deposited, stored, disposed, or placed, plus those soils that have become contaminated through migration.

The probable sources of contamination are the drums stored at the facility and contaminated soil. Contents from the drums and tanks have leaked or spilled onto the soil and have contaminated the soil and groundwater in the area. The soil surrounding the tank farm is also considered a source, due to the contamination leaking from the pipes and tanks. Sampling revealed similar contamination in these two areas that correspond to the chemicals that were used and stored on-site.

5.0 MIGRATION PATHWAYS

The CERCLA Hazard Ranking System identifies three migration pathways and one exposure pathway by which hazardous substances may pose a threat to human health and/or the environment. Consequently, sites are evaluated on their known or potential impact to these four pathways. The pathways evaluated are groundwater migration, surface water migration, soil exposure, and air migration.

This section includes data and information collected during the CERCLA Combined Site Inspection together with information documented from other sources, which may be useful in analyzing the impact of the Clayton Chemical site on the four pathways and the various human and environmental targets within the established target distance limits.

5.1 Groundwater Pathway

The American Bottoms are underlain by unconsolidated valley fill. The valley fill is composed of recent alluvium, known as Cahokia Alluvium. The Cahokia Alluvium is approximately 40 feet thick and consists of unconsolidated, poorly sorted, fine-grained material

with some local sand and clay lenses. From the test pit summary, site-specific geologic information was identified. The site is generally composed of black cinders from one to three inches in depth, then changing to brown clay to a depth of about 3 feet, then to an alluvium with lenses of gray clay to a depth of approximately 40 feet. These observations were made during the Combined Site Inspection.

An area groundwater study indicates that as of 1991, the closest residential water wells were one approximately one mile northeast from the site (water use unknown), and the other is approximately one mile southeast from the site (water use unknown).

Groundwater is rarely, if ever, utilized for potable drinking water within four miles of the Clayton Chemical site. Drinking water for the area is supplied from the Mississippi River, the intake for the drinking water is located just north, upstream of the facility. No groundwater is being pumped from the American Bottoms aquifer in the vicinity for public or industrial use. Nine individual wells have been identified. These wells are used for irrigation purposes, and Sauget has a city ordinance that prohibits use of groundwater as potable water. A documented release to groundwater was established when groundwater samples GW-013-01 through GW-013-06 and GW-013-08 were found to be three times the background levels for volatile contaminants. These samples are highlighted in Table 4 (Sample Summary).

5.2 Surface Water

Based on site drainage observed during the site reconnaissance, it appears that the surface water drains toward the eastern portion of the site. This is due to the construction of the levee to the west of the site. There is a low depression in the middle of the site, where water tends to accumulate. Surface water ultimately drains to the American Bottoms Regional Wastewater

Treatment Facility, located at 1 American Bottoms Road.

Based on Illinois EPA data, there are no known surface water intakes within fifteen miles downstream of the site. The nearest downstream surface-water intake on the Illinois side of the Mississippi River is located at river mile 110, approximately 64 miles south of the project area. This intake supplies drinking water to the residents of the Town of Chester and surrounding area in Randolf County, Illinois.

No surface water samples were collected during the Combined Assessment.

5.3 Soil Exposure

The analytical data generated from soil samples taken during the Combined Assessment Inspection of the Clayton Chemical property indicates that the soil and wastes at the site contain significant concentrations of contaminants. Soil borings SB-013-01, -03, -04, -05, -07, -08, -09, and –11 were found to be above three times the background sample for volatile contaminants. Soil borings SB-013-01, -02, -03, -04, -05, -07, -08, and –11 were found to be above three times the background limit for semi-volatiles. Soil borings SB-013-01, -03, -04, -05, -08, and –11 were found to be above three times the background level for aroclors. Soil borings SB-013-03 and –11 were found to be above three times the background limits for metals. Soil samples SS-013-02, -03, -07, -08, -10, and -11 were found to be above three times the background limits for volatiles. Soil samples SS-013-01, -02, -04 through –11 were found to contain above three times the background levels for semi-volatiles and aroclors. Soil samples SS-013-01, -04 through –09 contained three times the background levels for inorganics. These samples and contaminants are identified in Table 4 (Sample Summary). These sample results indicate observed contamination to the soil exposure pathway by contaminants that are attributable to the sites' former activities

and source materials. The site is contained by a fence and inaccessible to the general public. There are no schools or day care facilities on-site or within 200 feet of the contaminated areas. Persons performing any excavation/construction tasks in the future have a high potential for contact of contaminated soil and inhalation of contaminated air.

Nearby population within 1-mile of the site	
Distance (mi)	Population
0-1/4	0
¼-1/2	0
½-1	191
Total	191

The number of people was calculated using 2.59 persons per household in St. Clair County, as established by the U.S. Census Bureau.

5.4 Air Route

During the course of the Combined Site Inspection, there were no air samples collected. There are no records, reports or complaints of air releases from the site. The site is mostly vegetated, or covered with gravel. Based on the analytical results of soil and waste material samples collected during the Combined Assessment Inspection, the potential for wind blown particulates is low. Due to the inaccessibility and remoteness of the facility, it is unlikely that air releases would pose a hazard to the surrounding population or environment. It should be noted that if excavation of the site is commenced, there is the possibility of the contaminants becoming airborne.

The nearest individual and regularly occupied structure is the businesses located within

1/4 mile west of the site. There are no employees currently working at the Clayton Chemical site. The approximate number of individuals potentially exposed to airborne particulates are listed in the table below.

Individuals potentially exposed to airborne contaminants.	
Distance (mi)	Population
0-1/4	15
¼-1/2	15
½-1	161
1-2	19000
2-3	19000
3-4	19000
Total	57000

The number of people was calculated using 2.53 persons per household in St. Claire County, as established by the U.S. Census Bureau.

Table 1
Test Pit Summary

Table 1

Test Pit Summary			
Location	Description	Depth (feet)	Comments
Pit 1	6 inches black cinder, 3 ft. dark soil, 3 ft. grey clay	6	
Pit 2	6 inches black cinder, 3 ft. dark soil, 3 ft. grey clay	6	
Pit 3	6 inches black cinder, 3 ft. dark soil, 3 ft. grey clay	6	
Pit 4	6 inches black cinder, 3 ft. dark soil	3	Hit some type of liner. Ceased digging.
Pit 5	6 inches black cinder, 4 ft. dark grey soil, 4 ft. grey clay	8	Sample taken SS-013-01 from 1 ft. green solid material at location. Aroma in pit.
Pit 6	6 inches black cinder, 3 ft. dark soil, 3 ft. grey clay	6	Paint cans in ground. Soil sample taken. SS-013-02 from 5 ft. Aroma in pit.
Pit 7	6 inches black cinder, 3 ft. dark soil, 3 ft. grey clay	6	
Pit 8	6 inches black cinder, 3 ft. dark soil, 2.5 ft. grey clay, some brown sand	5.5	
Pit 9	6 inches black cinder, 5 ft. dark soil, 3 ft. grey clay, some brown sand	8	
Pit 10	6 inches black cinder, 5 ft. dark soil, 3 ft. grey clay, some brown sand	8	
Pit 11	6 inches black cinder, 3 ft. dark soil, 3 ft. grey clay, some brown sand	6	
Pit 12	6 inches black cinder, 4 ft. dark soil, 3 ft. grey clay, some brown sand	6	
Pit 13	6 inches black cinder, 4 ft. dark soil, 2 ft. grey clay, some brown sand	5	Soil sample taken. SS-013-03 from 3 ft.
Pit 14	6 inches black cinder, 4 ft. dark soil, 2 ft. grey clay, some brown sand	6	
Pit 15	6 inches black cinder, 4 ft. dark soil, 2 ft. grey clay, some brown sand	6	
Pit 16	6 inches black cinder, 4 ft. dark soil, 2 ft. grey clay, some brown sand	6	
Pit 17	6 inches black cinder, 4 ft. dark soil, 2 ft. grey clay, some brown sand	6	
Pit 18	6 inches black cinder, 4 ft. dark soil, 2 ft. grey clay, some brown sand	6.5	
Pit 19	6 inches black cinder, 3 ft. dark clay, 6 ft. brown clay	6	
Pit 20	6 inches black cinder, 3 ft. dark clay, 6 ft. brown clay	6	
Pit 21	6 inches black cinder, 3 ft. dark clay, 6 ft. brown clay	6	
Pit 22	1 foot black cinder, 3 ft. brown clay, 3 ft. black clay	7	

Pit 23	1 foot black cinder, 3 ft. brown clay, 3 ft. black clay	7	Paintlike material-red, green.
Pit 24	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	7	Paintlike material-red, green. Soil sample taken SS-013-04 from 5 ft.
Pit 25	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	7	Paintlike material-red, green, blue and yellow.
Pit 26	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	7	White, flakey, semihard material
Pit 27	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	7	White, flakey, semihard material
Pit 28	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	7	White, flakey, semihard material
Pit 29	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	8	White, flakey, semihard material
Pit 30	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	8	
Pit 31	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	8	White, flakey, semihard material. Odor. Sample taken Ss-013-05 from 5 ft.
Pit 32	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	8	White, flakey, semihard material.
Pit 33	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	8	Paintlike odor.
Pit 34	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	8	Orange paint with odor.
Pit 35	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	8	
Pit 36	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	8	
Pit 37	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	8	
Pit 38	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	8	
Pit 39	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	8	
Pit 40	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	8	
Pit 41	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	8	
Pit 42	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	8	
Pit 43	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	8	
Pit 44	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	8	Red paint with odor. Sample taken SS-013-06 from 3 ft.
Pit 45	1 foot black cinder, 3 ft. brown clay, 3 ft. grey clay	8	Paintlike odor.
Pit 46	3 inches black cinder, 3 ft. brown clay, 3 ft. dark grey clay mixed with sand	6	
Pit 47	3 inches black cinder, 3 ft. brown clay, 3 ft. dark grey clay mixed with sand	6	Sample taken SS-013-07 from 3 ft.

Pit 48	3 inches black cinder, 3 ft. brown clay, 3 ft. dark grey clay mixed with sand and gravel	6	West side of Drum/Dock storage area.
Pit 49	3 inches black cinder, 3 ft. brown clay, 3 ft. dark grey clay mixed with sand and gravel	7	
Pit 50	3 inches black cinder, 3 ft. brown clay, 3 ft. dark grey clay, water appears	6	Odor, oily appearance, sample taken SS-013-08 taken from 5 ft.
Pit 51	2 inches gravel, 6 inches of brown dirt, cinder mixed with sand, fikk material, concrete	6	
Pit 52	2 inches gravel, 6 inches of brown dirt, cinder mixed with sand, fikk material, concrete, railroad tie	6	
Pit 53	3 inches black cinder, 3 ft. brown clay, 3 ft. dark grey clay mixed with sand	8	
Pit 54	3 inches black cinder, 3 ft. brown clay, 3 ft. dark grey clay mixed with sand	8	Odor from soil. Sample taken SS-013-09 taken from 5 ft.
Pit 55	3 inches black cinder, 3 ft. brown clay, 3 ft. dark grey clay mixed with sand		Odor from soil. Sample taken SS-013-10 taken from 5 ft.
Pit 56	3 inches black cinder, 3 ft. brown clay, 3 ft. dark grey clay mixed with sand		Odor from soil.
Pit 57	3 inches black cinder, 3 ft. brown clay, 3 ft. dark grey clay mixed with sand		Odor from soil.
Pit 58	3 inches black cinder, 3 ft. brown clay, 3 ft. dark grey clay mixed with sand		Odor from soil.
Pit 59	1 inch gravel, 3 ft. of black cinders, 3 ft. brown clay, 3 ft. dark grey clay mixed with sand		Odor from soil. Sample taken SS-013-11 taken from 4 ft.

Table 2
Geoprobe Summary

Table 2

Geoprobe Summary			
Location	Description	Depth (feet)	Comments
1	Mult-Rae reading not recorded	12 to 16	Groundwater sample taken. GW-013-01 at 12-16 ft.
2	Mult-Rae reading not recorded	0-8	Two soil samples taken, SB-013-01 at 0-4 ft., SB-013-02 at 4-8 ft.
3	Mult-Rae reading VOCs at 41-902 ppm	8 to 12	Groundwater sample taken. GW-013-02 at 8-12 ft.
4	Mult-Rae reading VOCs at 18 ppm	0-4	Soil sample taken. SB-013-04 at 4 ft.
5	Mult-Rae reading VOCs at 495 ppm	0-4	Soil sample taken. SB-013-03 at 4 ft.
6	Mult-Rae reading VOCs at 475-546 ppm. Purple coloration. Oily sheen from 8-16 feet.	0-16	Soil sample, SB-013-05 taken at 0-4 ft. Groundwater sample taken GW-013-03 from 4-8 ft.
7	Mult-Rae reading VOCs at 12.1-69.2 ppm. Appears to be oil saturated.	0-12	No sample taken
8	Mult-Rae reading VOCs at 19.5-296 ppm. Appears to be oil saturated.	0-12	No sample taken
9	Mult-Rae reading VOCs at 37.2-90.2 ppm. Appears to be oil saturated.	0-12	No sample taken
10	Mult-Rae reading VOCs at 35-129 ppm. Appears to be oil saturated.	0-12	No sample taken
11	Mult-Rae reading VOCs at 0-20 ppm. Appearance of oil residue.	0-12	No sample taken
12	Mult-Rae reading VOCs 29.7-76.1 ppm	0-16	Groundwater sample taken GW-013-04 from 12-16 ft.
13	Mult-Rae reading VOCs at 0-34 ppm	0-12	Soil sample taken SB-013-06 taken at 0-4 ft.
14	Mult-Rae reading VOCs at 2-82 ppm	0-12	Soil sample taken SB-013-07 taken at 8-12 ft.
15	Mult Rae reading VOCs at 12.7-307 ppm	0-12	Soil sample taken SB-013-08 taken at 0-4 ft. Groundwater sample taken GW-013-05 from 8-12 ft.
16	Mult-Rae reading VOCs at 1.4-28 ppm. Petroleum odor.	0-16	Soil sample SB-013-09 taken at 4-8 ft. Groundwater sample taken GW-013-06 from 8-12 ft.
17	Mult-Rae reading VOCs at 12.7-307 ppm	0-12	Groundwater sample taken GW-013-07 from 8-12 ft.
18	Mult-Rae reading VOCs at 0.4-0.5 ppm	0-12	No sample taken
19	Mult-Rae reading VOCs at 0 ppm	0-12	Soil sample SB-013-10 taken at 8-12 ft.
20	Mult-Rae reading VOCs at 2-297 ppm	0-12	Soil sample SB-013-11 taken at 0-4 ft.
21	Mult-Rae reading not recorded	0-12	Groundwater sample taken GW-013-08 from 8-12 ft.
22	Mult-Rae reading not recorded	0-12	Groundwater sample taken GW-013-09 from 8-12 ft.
23	Mult-Rae reading not recorded	0-12	Groundwater sample taken GW-013-10 from 8-12 ft.

Table 3
Drum and Tank Summary

Date: 06/06/2001

Resource Recovery Group, LLC
Weekly Tank Inventory Report

DATE SEALED	TANK #	OUTAGE	VOLUME MEASURED	SEAL 1	SEAL 2	SEAL 3	SEAL 4	SEAL 5	SEAL 6	SEAL 7	COMMENTS
06/28/98	T-51	17"	6433	483538	483527	483554					
06/10/99	T-52	84"	1303	483539	483537	483492	483541				Pumped drums from DS. 06/23/99 Shipped 4202 gal from 8/7 incident
06/10/99	T-RC	108"	7560	483485	483418	483515					
06/28/98	S-1	17"	8793	483572	483580						
06/28/98	S-2	10"	9206	483600	483556						
06/28/98	S-3	110"	4306	483508	483521	483516	483545				
06/28/98	S-4	32"	7908	483513	483543						
11/18/98	S-6		0	483544							Shipped -5,983 gallons on 11/16/98 Shipped -2,515 gallons on 11/18/98
07/13/99	S-7		0	483449							Shipped -4,380 gallons on 05/17/99. 100 gallons line flush Balance 7/13
06/31/98	S-8	143"	1359	483542	483599						Shipped 5/11/01
06/31/98	S-5	13"	9029	483524	483566						
06/31/98	T-11	28"	22747	483498	483588						
06/31/98	T-12	10"	26394	483584	483551	483575	483488	483501			
06/31/98	T-13	20"	26247	483506	483507						
06/31/98	T-14	27"	22978	483477							
10/15/98	T-10	EMPTY	0	483480	483427						Shipped 3562 gallons on 9/28/98 Shipped 995 gallons on 10/15/98
02/08/99	T-23	EMPTY	0	483497	483593						Shipped 900 gallons on 9/16/98. Shipped 950 gallons on 9/23/98
06/31/98	T-27	EMPTY	0	483529	483536						
10/02/98	T-28	EMPTY	0	483570	483552						Emptied (3291 gallons) on 10/2/98.
12/30/98	T-24	EMPTY	0	483489	483581						Shipped 2072 gallons on 10/15/98.
06/31/98	T-33	14"	4537	483442	483526						Consolidated all perc on site on 02/17/99. Shipped 950 gallons 04/30/99
12/30/99	T-37	34"	5625	483574	483475						Consolidated all perc on site on 02/17/99.
06/31/98	T-17	35"	5437	483490	483576						
09/10/98	T-39	EMPTY	0	483547	483587						Transferred to drums on 9/10/98
12/14/98	T-34	EMPTY	0	483488	483473						Shipped -1377 gallons on 12/14/98. Balance of loss due to line flush, etc
02/17/99	T-36	EMPTY	0	483511	483587						Shipped -2200 gallons on 2/17/99/98. Balance of loss due to line flush, et
06/31/98	T-18	EMPTY	0	483531	483439	483581					
06/31/98	T-41		5397	483444	483550	483535					
10/02/98	SS DRYER		0	483487	483517						Emptied (1800 gallons) on 10/2/98.
06/31/98	T-45	68"	1536	483474	483534						
06/10/99	T-46	4"	2754	483452	483514						
06/31/98	T-47	EMPTY	0	483494	483504						
11/09/98	T-44	19"	5256	483560	483487						
06/31/98	T-38	EMPTY	0	483569	483528	483589					Filled tractor fuel tank on 9/16/98, 10/2/98, 10/31/98, 11/9/98, 12/10/98. ^cont. 03/18/99, 05/11/99 Emptied 5/11/01
09/01/98	B-1	6"	16638	483530	483585						
09/01/98	B-2	24"	15576	483557	483595						
09/01/98	B-3	EMPTY	0	483546	483458						
09/01/98	B-4	10"	16402	483509	483436						
09/01/98	G-2	154"	32144	483493	483562	483463	483510	483450	483437	483533	

Date: 06/06/2001

Resource Recovery Group, LLC
Weekly Tank Inventory Report

DATE SEALED	TANK #	OUTAGE	VOLUME MEASURED	SEAL 1	SEAL 2	SEAL 3	SEAL 4	SEAL 5	SEAL 6	SEAL 7	COMMENTS
09/01/98	G-3	72"	241200	483486							
09/01/98	G-4	131"	69823	483518	483454						
09/01/98	G-5	318.5"	169760	483577							
09/01/98	G-6	60"	19116	483548							
09/01/98	G-7	72"	18408	483525							
09/01/98	G-8	30"	20866	483408							
09/01/98	G-9	97"	16933	483456							
09/01/98	G-10	21"	21535	483579							
09/01/98	G-11	EMPTY	0	483411							All contents (23,452 gallons) transferred to G-5 to mitigate leak on 9/1/98
		TOTAL	843224								

Date: 06/07/2001

Resource Recovery Group, LLC
Weekly Drum Dock Inventory Report

GENERATOR	PDS NO.	BAY NO.	DESCRIPTION	COMMENTS
RRG/CCC Inventory	NA	1	Asphalt Sealer	
RRG/CCC Inventory	NA	1	Asphalt Sealer	0 Ato samples
RRG/CCC Inventory	NA	1	Asphalt Sealer	
Owens	1897B	13	Caustic	
Owens	1897B	13	Caustic	
Owens	1897A	13	Caustic	
Owens	1897A	13	Caustic	1 Sample
Komatsu	2160C	13	Caustic Solids	
Komatsu	2160C	13	Caustic Solids	
ADM Packaging	1571A	13	Corrosive	0 Samples
Nascote	2243A	13	Corrosive	
Wegoner	1783A	13	Corrosive	
Ovemite	2082A	13	Corrosive Solids	
RRG Internal	INTERNAL	4	haz liquid from samples	1 Sample
Bazan	2248	5	Haz Solids	
ADM Bio	2148A	6	Haz Solids	
Bazan	2248	6	Haz Solids	
RRG Internal	INTERNAL	6	Haz Solids	
RRG Internal	INTERNAL	6	Haz Solids	
RRG Internal	INTERNAL	6	Haz Solids	
RRG Internal	INTERNAL	4	haz solids/sample containers	
RRG Internal	INTERNAL	4	haz solids/sample containers	
ADM Bio	2184A	7	Hazardous Semi Solids	
Nascote	2242A	1	Hazardous solids	
Nascote	2242A	3	Hazardous solids	4 Samples
ADM Corn Sweeteners	2238A	1	Hazardous Solids	
ADM Corn Sweeteners	2238A	1	Hazardous Solids	
ADM Vitamin E	2235	1	Hazardous solids	
ADM Vitamin E	2235	1	Hazardous solids	
Republic	2219A	1	Hazardous solids	
Republic	2219A	1	Hazardous solids	
RPS	2231A	2	Hazardous Solids	
ADM Corn Sweeteners	2174A	3	Hazardous Solids	
Komatsu	2220B	3	Hazardous Solids	
Komatsu	2220B	3	Hazardous solids	
Chemetco	2191A	6	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	

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Date: 06/07/2001

Resource Recovery Group, LLC
Weekly Drum Dock Inventory Report

GENERATOR	PDS NO.	BAY NO.	DESCRIPTION	COMMENTS
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2247A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
Nascote	2242A	13	Hazardous Solids	
ADM Fabrication	1367A	13	Hydrochloric Acid	0 samples
ADM Fabrication	1367C	13	Hydrochloric Acid	
Scientific Associates	2072C	13	Lab Pack Hg	0 samples
RRG Internal	INTERNAL	6	Line Flush for reclaim	
RRG Internal	NA	1	Line Flush for Reclaim Perc	
Parkway School	2251A	6	Liquid Fuel	
Republic	1024A	1	Liquid Fuel Water w/ Ag/CN	1 sample
Republic	1024A	1	Liquid Fuel Water w/ Ag/CN	1 sample
Republic	1024A	2	Liquid Fuel Water w/ Ag/CN	
National Graphics	2031A	13	Methylethanolamine	0 samples
National Graphics	2031A	13	Methylethanolamine	

Date: 06/07/2001

Resource Recovery Group, LLC

Weekly Drum Dock Inventory Report

GENERATOR	PDS NO.	BAY NO.	DESCRIPTION	COMMENTS
Builder's Square	2206A	13	Muriatic Acid	0 sample
Illinois Engraving	1303A	13	Nitric Acid	1 sample
Illinois Engraving	1787A	13	Nitric Acid	
National Graphics	2032B	13	Nitric Acid	
ADM Fabrication	1367A	13	Nitric Acid/Sulfuric Acid O/P	0 sample
ADM Fabrication	1367A	13	Nitric/Sulfuric Acid	
EnviroVac	1199A	4	Non Haz Ethylene Glycol	0 samples
CIPS	1114A	13	Non Haz Ethylene Glycol	
CIPS	1114A	13	Non Haz Ethylene Glycol	
CIPS	1114A	13	Non Haz Ethylene Glycol	
CIPS	1114A	13	Non Haz Ethylene Glycol	
CIPS	1114A	13	Non Haz Ethylene Glycol	
CIPS	1114A	13	Non Haz Ethylene Glycol	
CIPS	1114A	13	Non Haz Ethylene Glycol	
CIPS	1114A	13	Non Haz Ethylene Glycol	
CIPS	1114A	13	Non Haz Ethylene Glycol	
Northrop	1207A	13	Non Haz Ethylene Glycol	
ADM Corn Sweeteners	1874C	2	Non Haz Semi-solids	
ADM Corn Sweeteners	1874C	2	Non Haz Semi-solids	
ADM Corn Sweeteners	1874C	2	Non Haz Semi-solids	
ADM Corn Sweeteners	1874C	2	Non Haz Semi-solids	
ADM Corn Sweeteners	1874C	2	Non Haz Semi-solids	
ADM Corn Sweeteners	1619A	3	Non Haz Solids	
ADM Mechanical	1669D	4	Non Haz solids	
Nascote	2243C	7	Non Haz Solids	
Sligo	1784A	7	Non Haz Solids	
National Graphics	2033D	3	Nonhaz solids	
National Graphics	2033	7	Nonhaz solids	
National Graphics	2033	7	Nonhaz solids	
ADM East	2040A	1	Nonhazardous Solids	
ADM Fabrication	1370A	2	Oxidizing solid	0 sample
ADM Fabrication	1370A	13	Oxidizing Solid	
RRG Internal	INTERNAL	6	Perc Solids from reclaim/consol.	1 sample
RRG Internal	INTERNAL	6	Perc Solids from reclaim/consol.	
RRG Internal	INTERNAL	6	Perc Solids from reclaim/consol.	
RRG Internal	INTERNAL	6	Perc Solids from reclaim/consol.	
RRG Internal	INTERNAL	6	Perc Solids from reclaim/consol.	
RRG Internal	INTERNAL	6	Perc Solids from reclaim/consol.	

Date: 06/07/2001

Resource Recovery Group, LLC

Weekly Drum Dock Inventory Report

GENERATOR	PDS NO.	BAY NO.	DESCRIPTION	COMMENTS
RRG Internal	INTERNAL	6	Perc Solids from reclaim/consol	
RRG Internal	INTERNAL	6	Perc Solids from reclaim/consol	
RRG Internal	INTERNAL	6	Perc Solids from reclaim/consol	
St. Louis Parks	633B	4	Soap Water	0 sample
National Graphics	2032A	13	Sodium Hydroxide	0 sample
Petrolite	2119A	13	Sodium Hydroxide	
ADM Fabrication	1367D	13	Sodium Nitrite	0 sample

WDirev

Table 4
Sample Summary

TABLE 4
SAMPLE SUMMARY

VOLATILES (ppb)	Background	SCDM Soil	SB-013-01	SB-013-02	SB-013-03	SB-023-04	SB-013-05	SB-103-06	SB-013-07	SB-013-08	SB-013-09	SB-013-10	SB-013-11
	X101												
									2500				
1,1,1-Trichloroethane	1400 U		43000	10			680000	8	3400	7500			
1,1,2-Trichloroethane	1400 U												
1,1,2-Trichloro-1,2,2-trifluoroethane					46000			8					
1,1,2-Trichloroethane	1400 U												21000
1,1-dichloroethane	1400 U	970	4000	10	29000 J			200	2300	2200 J			
1,2,4-Trimethylbenzene													
1,2-Dibromo-3-chloropropane													
1,2,3-Trichlorobenzene									2300				
1,2,4-Trichlorobenzene				8					9600				
1,2,4-Trimethylbenzene			5300	200	83000		83000 J			11000			700 J
1,2-Dichlorobenzene			2600 J	30	210000				11000	3800			
1,3,5-Trimethylbenzene			1800 J	90	32000 J					3800			
1,4-Dichlorobenzene			3400 J	30	440000				10000	6600			
2-Butanone (MEK)				10					1100				
2-Nitropropane													
4-Methyl-2-pentanone	1400 U				23000 J				700 J				
Acetone	1400 U	58000000		200 B		87000 J	88000 J				100		100
Acrolein													
Benzene	1400 U	20000	4400	20	150000			1700	11000		4		
Carbon Disulfide	1400 U			7									
Chlorobenzene	97000 E	12000000	3000 J	30	290000			20		6600			
Chloroethane	1400 U							500					
Chloroform		96000											
Chloromethane	1400 U	45000											
cis-1,2-Dichloroethene	1400 U		36000	10	300000			10	5000				
cis-1,3-Dichloropropane	1400 U				740000								
Ethylbenzene	1400 U	58000000	12000	300	95000		570000	50	600 J	8700			
Isopropylbenzene				10									
m&p-Xylene	1400 U	120000000	49000	2700	470000	13000 J	2100000	30	1900	33000			
Methylene Chloride	1400 U	78000	4800 J	20	40000 J	88000 J	110000 J		1400 J	10000 JB			10 JB
Naphthalene			3000 J	20	43000 J				400 J	18000 B			1700 J
n-Butylbenzene				9						1300 J			
n-Propylbenzene				20	15000 J								
o-Xylene	1400 U		14000	1100	130000		560000	40	500 J	13000			
p-Isopropyltoluene													
sec-Butylbenzene				200									
Styrene	1400 U												
t-Butylbenzene				7	17000 J				500 J				
Tetrachloroethane		11000											
Tetrachloroethene	1400 U		12000	10	36000	220000	2100000	40		7000			
Toluene	1400 U	120000000	72000	700			1400000	40	5900	19000			
trans-1,2-Dichloroethene								30					
Trichloroethene	1400 U		19000		30000 J		280000	40	1300	4000			

Key
mg/L = milligrams per liter
U = Undetected
NA = Not Analyzed
B or J = Reported value is grater than the method detection limit but less than the practical quantitation limit

TABLE 4
SAMPLE SUMMARY

VOLATILES (ppb)	Background X101	SCDM Soil	SS-013-01	SS-013-02	SS-013-03	SS-013-04	SS-013-05	SS-013-06	SS-013-07	SS-013-08	SS-013-09	SS-013-10	SS-013-11
1,1,1-Trichloroethane	1400 U				10		6	694		250000			
1,1,2-Trichloroethane	1400 U									45000			
1,1-dichloroethane	1400 U	970	10										
1,2,4-Trimethylbenzene				43000					1900000	140000	4500	17000	
1,2-Dibromo-3-chloropropane				12000 J									
1,2-Dichlorobenzene										39000			
1,3,5-Trimethylbenzene				14000 J					680000	45000	1800	10000	
1,4-Dichlorobenzene				20000	4700000					72000			
2-Butanone (MEK)							154				430		
4-Methyl-2-pentanone	1400 U			9700			83			49000 J			
Acetone	1400 U	58000000		34000 J			163 B		750000 J	68000 J	4300	20000	260000 J
Benzene	1400 U	20000	5		4		172			42000		1900 J	
Chlorobenzene	*97000 E*	*12000000*		*44000*	*9400000*					*86000*			
Chloroform		96000								32000 J			
Chloromethane	1400 U	45000					209						
cis-1,2-Dichloroethene	1400 U		13		7		7			58000			
Ethylbenzene	1400 U	58000000		2600					3000000	320000	740 J	2800 J	
Isopropylbenzene									180000 J	14000 J	1500	4100	
m&p-Xylene	1400 U	120000000		130000	4900000		11		15000000	1200000	3500	6500	
Methylene Chloride	1400 U	78000	9	10000 J	1300000 J		14		420000 J	28000 JB	900 JB	4000 JB	370000 JB
Naphthalene				6700 J					710000	30000 JB	2500 B	1600 B	
n-Butylbenzene										13000 J	840	6200	
n-Propylbenzene				8000 J					330000 J	26000 J	950	2000 J	
o-Xylene	1400 U			35000	1500000 J				4100000	340000	1700	1700 J	
p-Isopropyltoluene											2100		
sec-Butylbenzene							6				390 J	2400 J	
t-Butylbenzene										16000 J	8200	160000	210000
Tetrachloroethane		11000			7		6	61200		290000			
Toluene	1400 U	120000000		83000	2300000 J		35		6400000 J	1900000	520 J		
Trichloroethene	1400 U				117		121	339		810000			

Key
mg/L = Milligrams per liter
U = Undetected
NA = Not Analyzed
B or J = Reported value is greater than the method detection limit but less than the practical quantitation limit

TABLE 4
SAMPLE SUMMARY

SEMIVOLATILES (ppb)	Background X101	SCDM Soil	SB-013-01	SB-013-02	SB-013-03	SB-023-04	SB-013-05	SB-103-06	SB-013-07	SB-013-08	SB-013-09	SB-013-10	SB-013-11
1,2,4-Trichlorobenzene	440 U	5800000	3100		17000				5300				
1,2-Dichlorobenzene	440 U	52000000	1500		370000		500	500	2300				
1,3-Dichlorobenzene	440 U				11000								
1,4-Dichlorobenzene	440 U	24000	1400		560000			800	1500				
1,1'-Biphenyl	480												
2-Methylnaphthalene	440 U		500		83000	7000	1500			120000			
3,3-Dichlorobenzidine	440 U						2200						
4-Chloroaniline	440 U												
4-Chlorophenyl phenyl ether	440 U									4100			
4-Methylphenol	440 U		700										
4-Nitrophenol	1100 U												
Acenaphthene	440 U									9500			
Acenaphthylene	440 U												
Acetophenone	480												
Anthracene	440 U			7900									
Benzaldehyde	84			6900									
Benzo(a)anthracene	81			3900									
Benzo(a)pyrene	180 J												
Benzo(b)fluoranthene	440 U												
Benzo(g,h,i)perylene	440 U												
Benzo(k)fluoranthene	440 U												
bis(2-Ethylhexyl)phthalate	440 U	42000	5500		490000	19000				320000			5200
Butylbenzylphthalate	440 U	120000000			67000		500						
Carbazole	440 U												
Chrysene	440 U				15000	5000							
Dibenzo(a,h)anthracene	440 U												
Dibenzofuran	440 U				7500								
Diethylphthalate	440 U												
Dimethylphthalate	440 U												
Di-n-Butylphthalate	440 U	58000000	12000		200000								
Di-n-Octylphthalate	440 U	12000000											
Fluoranthene	440 U				7700								
Fluorene	440 U	23000000			20000		1300						
Indeno(1,2,3-cd)pyrene	440 U												
Isophorone	440 U	610000			10000								
Naphthalene	440 U		3600	1400	100000		4600			20000			
N-Nitrosodiphenylamine	440 U												
Pentachlorophenol	1100 U				16000								
Phenanthrene	440 U		1200		77000	110000	500			58000			
Phenol	440 U	350000000							500				
Pyrene	440 U	17000000			28000	10000							

PESTICIDES (ppb)	Background X101	SCDM value	SB-013-01	SB-013-02	SB-013-03	SB-023-04	SB-013-05	SB-103-06	SB-013-07	SB-013-08	SB-013-09	SB-013-10	SB-013-11
Aroclor-1016	18 J		788 J		75400		402			433			186
Aroclor-1232	22 J					5350							
Aroclor-1248	110 P												
Aroclor-1254	85												
Aroclor-1260	33 JP		984		220000	1930 J	183 J	143		1710			258

INORGANICS (ppm)	Background	CDM values	SB-013-01	SB-013-02	SB-013-03	SB-023-04	SB-013-05	SB-103-06	SB-013-07	SB-013-08	SB-013-09	SB-013-10	SB-013-11
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Arsenic	10.3	7.4	5.17	4.37B	34.9B	3.97B	5.02B			4.54B			24.4B
Barium	200	133	67.5	70.8	124	49.8	92.9	21.9	60.9	156	65.2		254
Cadmium	2.3	1.3				3.78B							2.14B
Chromium	18.3	21.2	4.2	5.64B	80.4	13.7	4.96B	3.57B	4.08B	10.6	3.71B		62.7
Lead	124	71.1	7.86	8.7B	421	108	18B	65.1	6.4B	32.7B	4.9B		353
Mercury	8.8	0.12	0.1		1.3	0.1	0.1	0.1		0.3	0.2		0.6
Selenium	1.8	0.58											
Silver	1.2	0.97											
Ignitability (degrees F)			>200	>200	>200	>200	>200	>200	>200	>200	>200		>200
pH			7.11	7.1	7.42	7.53	7.99	7.11	7.63	6.77	7.68		7.66

Key
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TABLE 4
SAMPLE SUMMARY

TABLE 4 Soil Borings	Background	SCDM Soil	SS-013-01	SS-013-02	SS-013-03	SS-013-04	SS-013-05	SS-013-06	SS-013-07	SS-013-08	SS-013-09	SS-013-10	SS-013-11
	X101		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
SEMIVOLATILES (ppb)													
1,2,4-Trichlorobenzene	440 U	5800000				50000							
1,2-Dichlorobenzene	440 U	52000000		12000		1600000	3000	1400					
1,3-Dichlorobenzene	440 U												
1,4-Dichlorobenzene	440 U	24000		14000		2100000	4200	2400		18000			
1,1'-Biphenyl	480												
2-Methylnaphthalene	440 U			5900		140000		800	92000	14000	39000	61000	76000
3,3-Dichlorobenzidine	440 U							600					
4-Chloroaniline	440 U												1900
4-Chlorophenyl phenyl ether	440 U												
4-Methylphenol	440 U												
4-Nitrophenol	1100 U												
Acenaphthene	440 U					41000						32000	
Acenaphthylene	440 U												
Acetophenone	480												
Anthracene	440 U												
Benzaldehyde	84												
Benzo(a)anthracene	81												
Benzo(a)pyrene	180 J												
Benzo(b)fluoranthene	440 U												
Benzo(g,h,i)perylene	440 U												
Benzo(k)fluoranthene	440 U												
bis(2-Ethylhexyl)phthalate	440 U	42000	93000	43000		430000	37000		1500000	160000	86000	17000	32000
Butylbenzylphthalate	440 U	120000000	1500			19000			30000				
Carbazole	440 U												
Chrysene	440 U					32000				17000			
Dibenzo(a,h)anthracene	440 U												
Dibenzofuran	440 U												3100
Diethylphthalate	440 U												
Dimethylphthalate	440 U												
Di-n-Butylphthalate	440 U	58000000	3600	12000		220000	2700		190000	290000			
Di-n-Octylphthalate	440 U	12000000	7700										
Fluoranthene	440 U					24000		700		12000			
Fluorene	440 U	23000000				96000				38000	19000	27000	
Indeno(1,2,3-cd)pyrene	440 U												
Isophorone	440 U	610000	2600										4100
Naphthalene	440 U			22000		610000	2000	600	430000	20000	8200	20000	36000
N-Nitrosodiphenylamine	440 U												
Pentachlorophenol	1100 U												
Phenanthrene	440 U			1200		230000		1300		95000	6600	11000	11000
Phenol	440 U	350000000		2600		78000							
Pyrene	440 U	17000000				82000		800		40000		4200	1500

Background samples were taken from another field event (Lefton Metal and Iron) located near the fa

PESTICIDES (ppb)	Background	SCDM values	SS-013-01	SS-013-02	SS-013-03	SS-013-04	SS-013-05	SS-013-06	SS-013-07	SS-013-08	SS-013-09	SS-013-10	SS-013-11
	X101												
Aroclor-1016	18 J			6350 J		899000				40300	3780	2620	9040
Aroclor-1232	22 J				46.1 J				79600				
Aroclor-1248	110 P												
Aroclor-1254	85												
Aroclor-1260	33 JP		5300	9890	136	232000	526	609	44700	33400	846	5100	2760

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TABLE 4
SAMPLE SUMMARY

INORGANICS (ppm)	Background	SCDM values	SS-013-01	SS-013-02	SS-013-03	SS-013-04	SS-013-05	SS-013-06	SS-013-07	SS-013-08	SS-013-09	SS-013-10	SS-013-11
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Arsenic	10.3	7.4	6.59B	4.74B	7.2B	7.38B	5.38B	23.4B	5.04B	3.37B			
Barium	200	133	1215	136	84.2	485	1621	147	509	304	137	110	204
Cadmium	2.3	1.3	42.3	1.62B	1.71B	25	2.53B	4.7	31.6	27.1	1.38B	0.4	
Chromium	18.3	21.2	3292	36.3	9.54	448	459	60.3	1381	462	73.5	5.64B	10.2
Lead	124	71.1	14368	134	70.2	2451	2665	2576	6607	2383	399	19.5B	15.2B
Mercury	8.8	0.12	3.8	0.5	0.2	1.2	1.4	0.3	0.8	2.4	0.3	0.4	0.3
Selenium	1.8	0.58	6.21B						8.58B				
Silver	1.2	0.97						.739B					
Ignitability (degrees F)			>200	>200	>200	130	>200	>200	130	130	>200	>200	125
pH			7.7	6.17	7.54	5.39	6.98	7.31	7.18	7.18	7.38	6.22	7.77

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TABLE 4
SAMPLE SUMMARY

INORGANICS (ppm)	Background	SCDM	MCL	GW-013-01	GW-013-02	GW-013-03	GW-013-04	GW-013-05	GW-013-06	GW-013-07	GW-013-08	GW-013-09	GW-013-10
	G101	PPM	PPM	PPM									
Arsenic	0.0322	0.00002	0.05				0.425B					0.131B	
Barium	1.31	2.5	2	0.278	0.073	0.209	0.392				0.347	0.194	0.196
Cadmium	0.0021 B	0.018	0.005										
Chromium	0.0363	0.18	0.1			0.013B					0.008B		0.012B
Lead	0.05					0.068B							
Mercury	0.0006	0.011	0.002										
Selenium	0.0041 B	0.18	0.05		0.2B						0.083B		
Silver	0.0009 B	0.18											
Cyanide	0.0024 B												
pH										6.76	7.04	6.99	

VOLATILES (ppb)	Background	SCDM	MCL	GW-013-01	GW-013-02	GW-013-03	GW-013-04	GW-013-05	GW-013-06	GW-013-07	GW-013-08	GW-013-09	GW-013-10
	G101	PPB	ppb	ppb									
1,1,1,2-Tetrachloroethane	10 U				4600 J								
1,1,1-Trichloroethane	10 U		200	140000	150000	150000	1600	35000	7	4 J			3 J
1,1,2,2-Tetrachloroethane	10 U				28000								
1,1,2-Trichloroethane	10 U		5		98000								
1,1-Dichloroethane	10 U				15000	6300	2700	14000	8	3 J			
1,1-Dichloroethene	10 U	0.058	7		3900 J	3800 J		2300 J					
1,2,3-Trichloropropane					3500 J								
1,2-Dichloroethane	10 U				40000								
1,3-Dichloropropane	10 U				3200 J								
2-Butanone	12				39000								
4-Methyl-2-pentanone	18				42000	49000		6000 J					
Acetone	56	35000			14000 J	2500 J		2900 J					
Acrylonitrile								900 JB	4000 JB				
Benzene	30	1.2	5		21000	55000	17000	15000					
Chlorobenzene	24000 E	700			10000		600 J		3 J				
Chloroethane	10 U						4800						
Chloroform	10 U				79000	5900							
cis-1,2-Dichloroethene	10 U			34000	31000	31000		63000	27				
Ethylbenzene	10 U	3500	700		3600 J	4400 J	1000	700 J					
Isopropylbenzene							400 J						
m&p-Xylene	10 U	70000	10000	11000	11000	14000	2500 J	4800 J	4 J				
Methylene Chloride	10 U	4.7	5	210000	320000	71000	400 J	27000	10 J	9 J	3400 J		15 J
Naphthalene								7100 J					
o-Xylene	10 U		10000		2900 J	3300 J	500 J						
t-Butylbenzene									20			22	
Tetrachloroethene	2 J	0.67	5		5700	4750			98				
Toluene	5 J	7000	1000	95000	48000	100000	6200	33000	10				3 J
Trichloroethene	10 U		5	110000	60000	36000		33000	34 J				
Vinyl Chloride	10 U		2					2100 J	5 J				

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Figure 1
Site Location Map

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Site Location Map

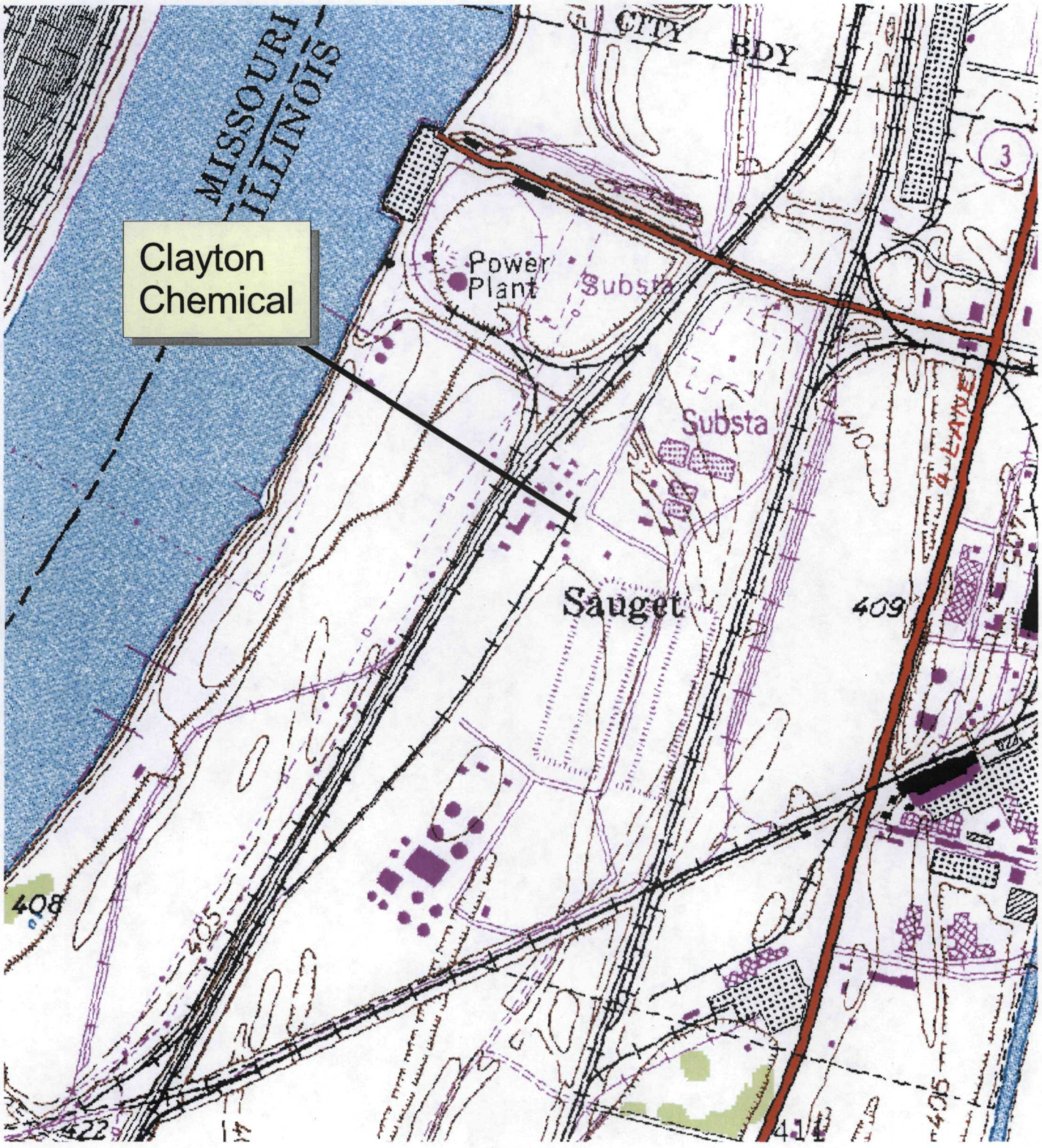
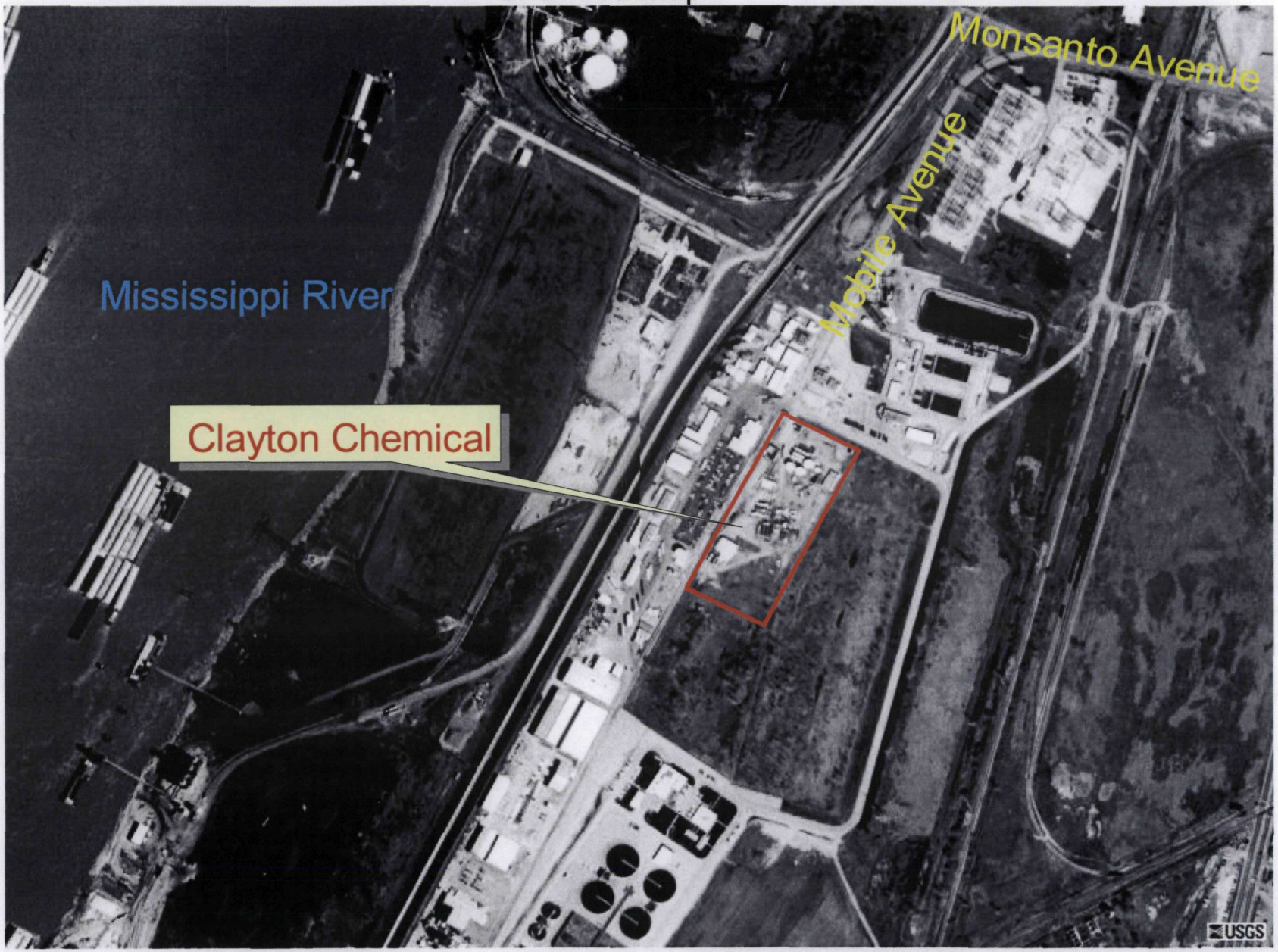


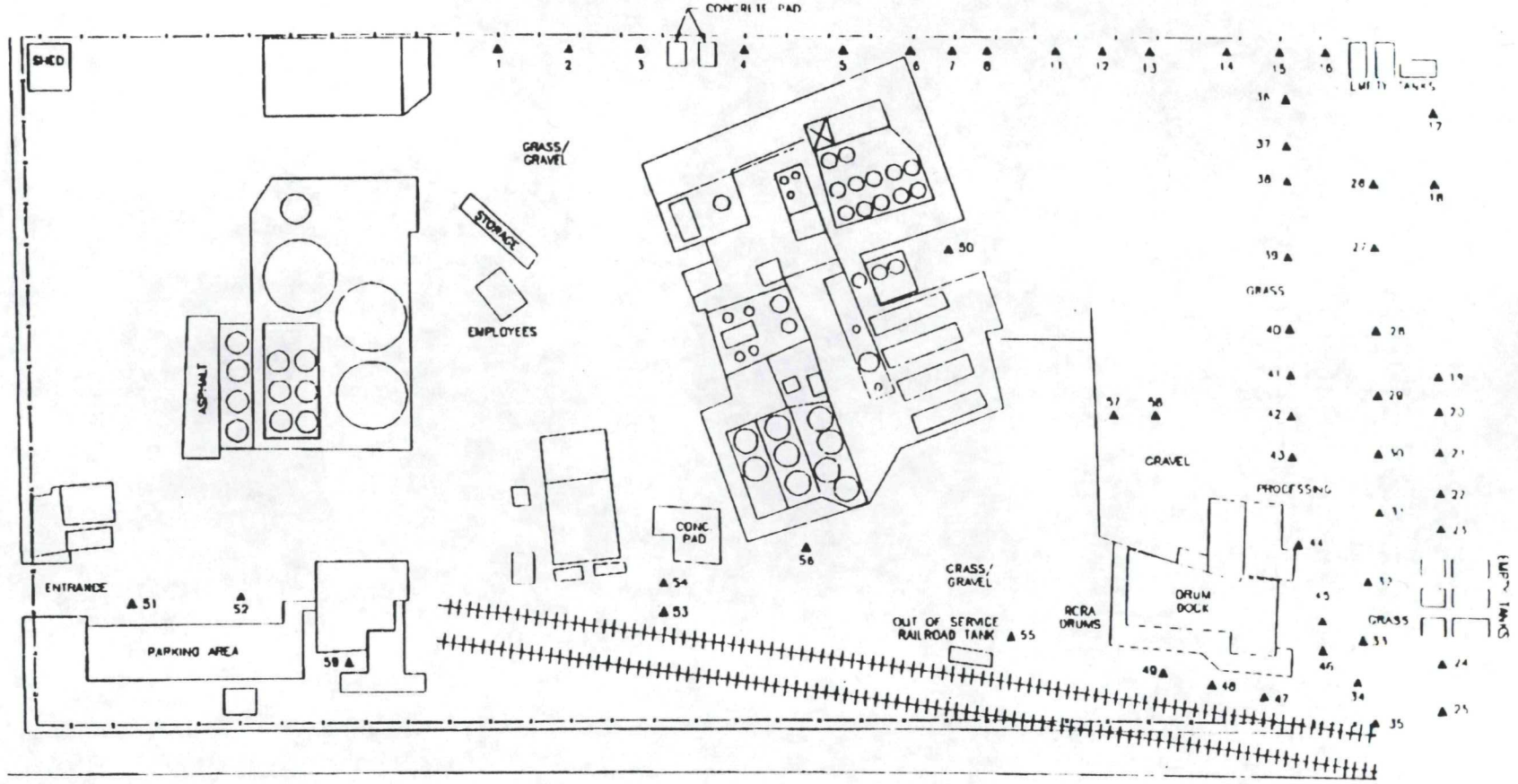
Figure 2
Site Area Map

Figure 2
Site Area Map



Not to scale

Figure 3
Sample Location Map



NOT TO SCALE

FIGURE 2-2

WESTON MANAGERS ENGINEERS/CONSULTANTS

750 E. Bunker Ct.
Suite 500
Vernon Hills, Illinois
60061

TEST PIT LOCATION MAP
-
CLAYTON CHEMICAL
Sauget, Illinois

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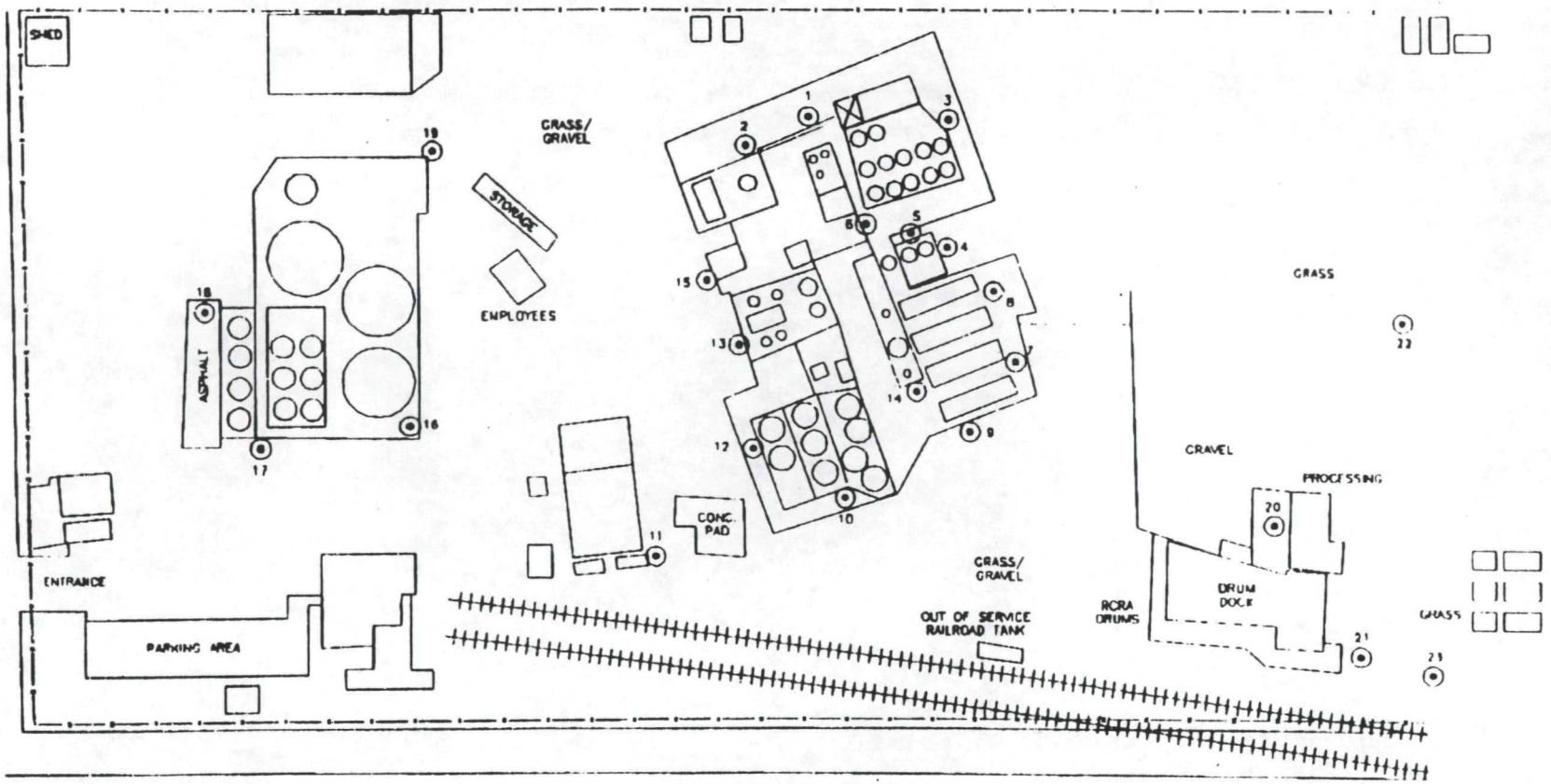

NOT TO SCALE

FIGURE 2-1

WESTON

750 E. Bunker Ct
Suite 500
Vernon Hills, Illinois
60061

GEOPROBE LOCATION MAP

CLAYTON CHEMICAL
Sauget, Illinois

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